इंटरनेट मानक

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IS 9227 (1979): Friction Roller Mountings for Mine Haulage Tracks [MED 8: Mining Techniques and Equipment]

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Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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UDC 621·839·1-216 : 622·625

IS : 9227 - 1979

(Reaffirmed 1999)

Indian Standard

SPECIFICATION FOR FRICTION ROLLER MOUNTINGS FOR MINE HAULAGE TRACKS

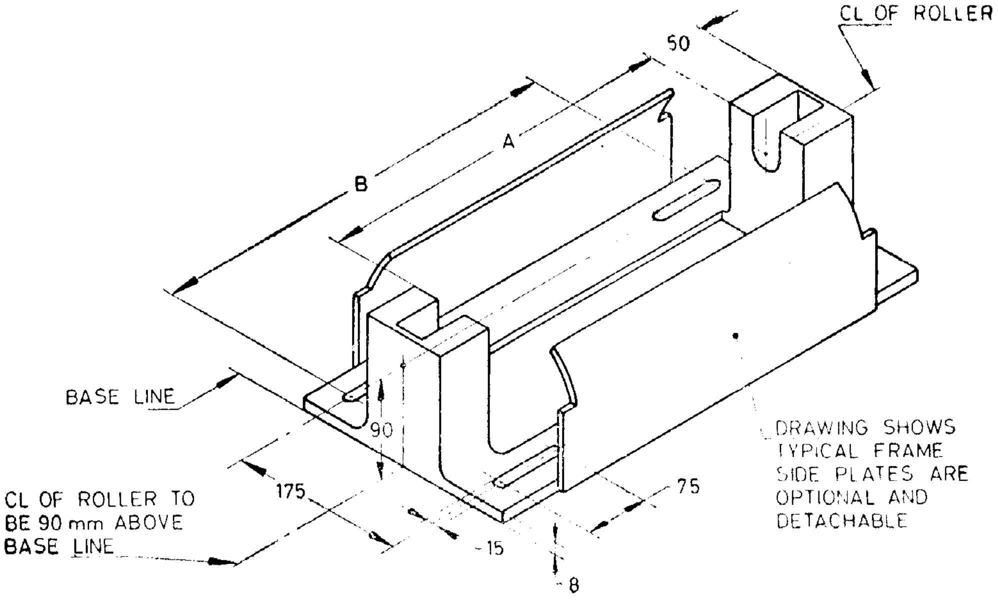
1. Scope — Covers the requirements for mountings for various types of rollers and pulleys used on mine haulage tracks for guiding the haulage rope.

2. Types

Type of Mounting	Remarks
High frame mounting, open or closed	Suitable for rollers of 100, 115 and 125 mm barrel diameter
Low frame mounting	Suitable for rollers of 100, 115, 125 and 150 mm barrel diameter
Sunken frame mounting	Suitable for rollers of 100, 115, 125 and 150 mm barrel diameter
Pedestal mounting	Suitable for all sizes of rollers

3. Dimensions

3.1 *High Frame Mounting*


CL OF ROLLER
50
A
B
BASE LINE
90
175
15
75
8
CL OF ROLLER TO BE 90 mm ABOVE BASE LINE
DRAWING SHOWS TYPICAL FRAME SIDE PLATES ARE OPTIONAL AND DETACHABLE

A = 15 + Length of roller over flanges
B = 65 + Length of roller over flanges

Mining Sectional Committee, EDC 50; Mine Tracks Subcommittee, EDC 50 : 12 [Ref : Doc : EDC 50 (2974)]

Adopted 31 July 1979 © December 1979, ISI [redacted] Gr 2

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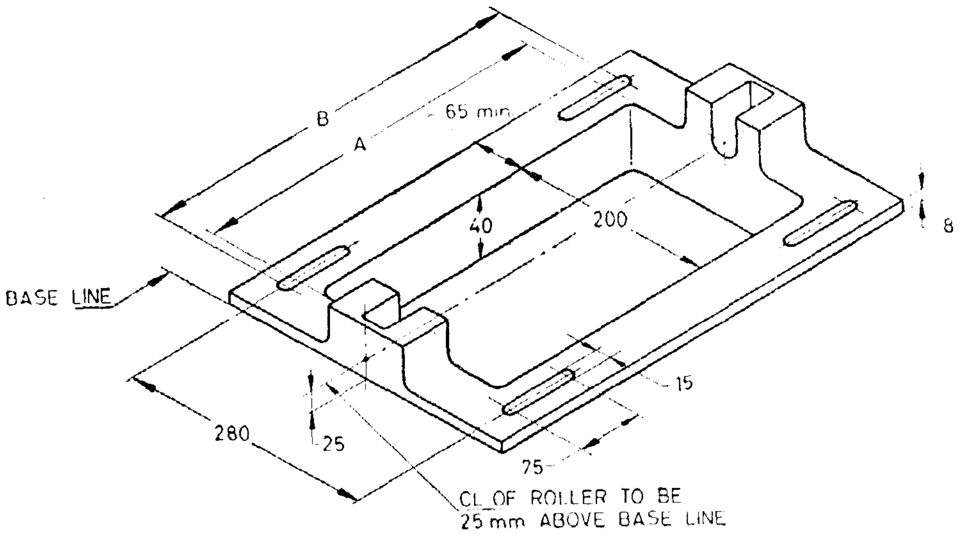
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

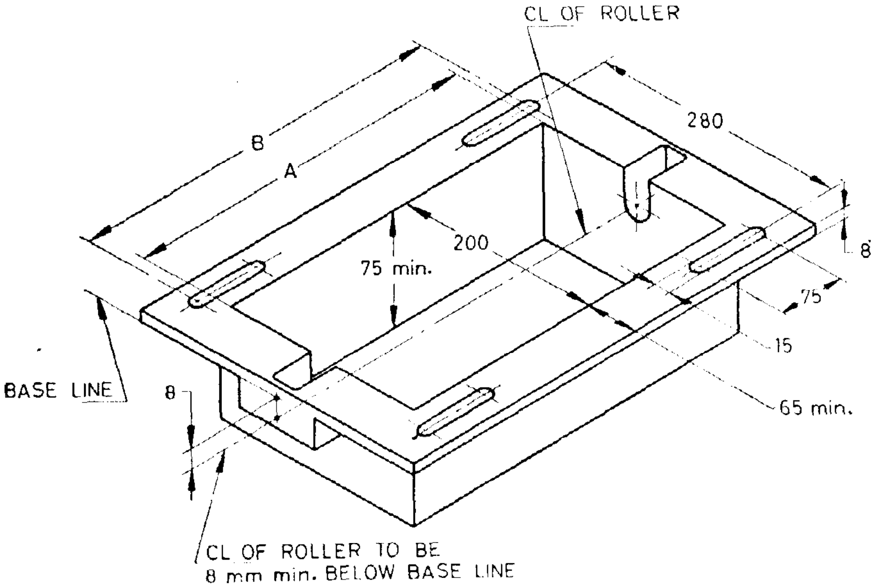
3.2 *Low Frame Mounting*



$A = 15 +$ Length of roller over flanges

$B = 65 +$ Length of roller over flanges

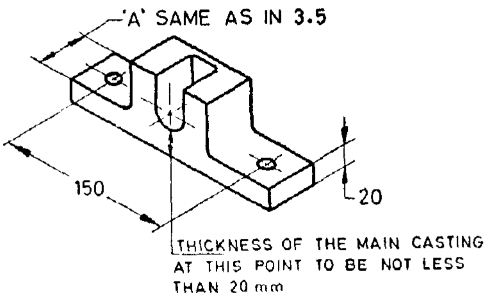
3.3 *Sunken Frame Mounting*



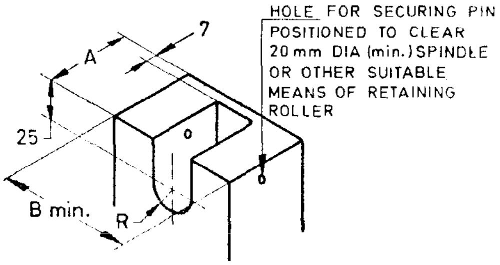
$A = 15 +$ Length of roller over flanges

$B = 65 +$ Length of roller over flanges

3.4 *Pedestal Mounting*


'A' SAME AS IN 3.5
150
20
THICKNESS OF THE MAIN CASTING AT THIS POINT TO BE NOT LESS THAN 20 mm

3.5 *Details of Bearing Portion of Mounting*


HOLE FOR SECURING PIN POSITIONED TO CLEAR 20 mm DIA (min.) SPINDLE OR OTHER SUITABLE MEANS OF RETAINING ROLLER
7
A
25
B min.
R

All dimensions in millimetres.

Spindle Diameter of Roller	Pedestal Width *A*	Bearing Radius *R*	*B*
19	50	12·0	57
22	50	12·0	66
25	50 for barrel dia of 150 mm 65 for barrel dia of 200 mm	13·5	75
28	65	15·0	84
32	80	16·5	96
38	80	20·0	114

4. Material

4.1 *For Cast Mountings*:

a) IS : 1030-1974 'Carbon steel castings for general engineering purposes (*second revision*)'.
b) IS : 2107-1962 ' Whiteheart malleable iron castings '.
c) IS : 2108-1962 ' Blackheart malleable iron castings '.
d) IS : 210-1970 ' Grey iron castings (*second revision*)'.

4.2 *For Fabricated Mountings* — Mild steel with tensile strength of 385 MPa.

5. General Requirements

5.1 All castings shall be properly fettled and dressed and all surfaces shall be satisfactorily cleaned for inspection purposes.

5.1.1 Minor defects in casting which do not effect the mechanical strength or the performance of the mounting may be rectified by welding when the manufacturer is able to provide satisfactory casting by so doing.

5.2 All components shall be free from harmful defects.

5.3 Mountings shall be either cast or fabricated or may be a combination of both and shall include means for preventing the spindle from rising to leave the mounting.

5.4 The mounting or pedestal shall be free of any projection that may hold down a rope which inadvertently has come off the pulley.

5.5 If agreed between purchaser and manufacturer the mountings may be provided with renewable bushes.

5.5.1 The design of bushes shall ensure that they will be prevented from rotating under operating conditions.

6. Designation — A friction roller mounting conforming to this standard shall be designated by the commonly used name and the number of this standard.

Example:

A friction roller mounting of sunken frame type shall be designated as:
Sunken Frame Mounting IS : 9227

7. Marking — Each mounting shall be marked with the manufacturer's name or trade-mark and indication of the material used when cast.

Note — Letters S, SA, I and IA shall be used to indicate cast steel, cast alloy steel, cast iron and alloy cast iron.

7.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

8. Information to be Supplied by Purchaser While Ordering — While ordering the purchaser shall supply the following information to the manufacturer:

a) Designation of roller for which mounting is required;

b) Type of mounting required;

c) If high frame mounting is required, then whether open or closed;

d) Whether renewable bushes are required if mountings other than pedestal mountings are required; and

e) Spindle bearing size in case of pedestal mounting.

EXPLANATORY NOTE

This standard covers the requirements for various types of mountings used for supporting rollers and pulleys used in mine haulage tracks and conforming to the following Indian Standards:

IS : 9203 (Part I)-1979 Specification for rope rollers for mine haulage tracks: Part I Technical supply conditions (*under print*);

IS : 9203 (Part II)-1979 Specification for rope rollers for mine haulage tracks: Part II Parallel rollers (*under print*);

IS : 9203 (Part III)-1979 Specification for rope rollers for mine haulage tracks: Part III Tapered and vertical rollers, horizontal and vertical pulleys (*under print*); and

IS : 9203 (Part IV)-1979 Specification for rope rollers for mine haulage tracks : Part IV Rollers with non-metallic rope bearing surfaces.

With the adoption of this standard it is felt that ranges of mountings specified herein will prove adequate for most combinations of rail sizes and bend diameters of the rollers. However there may be instances where precise location of the rope with respect to rail are critical and which have to be met by special mounting or methods of fixing particularly in case of larger rollers and pulleys. Further in the case of larger rollers and pulleys, the pedestals specified may be used either as individual units or with fabricated frames.

In the preparation of this standard considerable assistance has been derived from the following publications:

BS 3876 : Part 4 : 1966 'Specification for rope rollers and mountings for colliery track haulage, Part 4 Mountings' issued by British Standards Institution.

N.C.B. Specification No. 508/1966 'Mountings for haulage rollers' issued by National Coal Board, London.

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